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|--|---------------|----------------------|----------------------|------------------|
| APPLICATION NO.  | FILING DATE   | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.  | CONFIRMATION NO. |
| 10/748,699   | 12/29/2003    | Yeong Soo Nam        | 10125/4129           | 2139             |
| 757  | 7590          | 04/03/2008           | EXAMINER             |                  |
| BRINKS HOFER GILSON & LIONE<br>P.O. BOX 10395<br>CHICAGO, IL 60610 |               |                      | SCHICHTER, ANDREW M. |                  |
| ART UNIT   | PAPER NUMBER  |                      |                      |                  |
|  | 2871          |                      |                      |                  |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                   |
|------------------------------|--------------------------------------|-----------------------------------|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/748,699 | <b>Applicant(s)</b><br>NAM ET AL. |
|                              | <b>Examiner</b><br>ANDREW SCHECHTER  | <b>Art Unit</b><br>2871           |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 09 January 2008.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 11-18, 20-27 and 29-36 is/are pending in the application.
- 4a) Of the above claim(s) 11-16 is/are withdrawn from consideration.
- 5) Claim(s) 27 and 29-36 is/are allowed.
- 6) Claim(s) 17 and 24-26 is/are rejected.
- 7) Claim(s) 18 and 20-23 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 29 December 2003 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) *Notice of Draftsperson's Patent Drawing Review (PTO-544)*
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

The applicant argues [6-7] that the filing of the certified translation of the applicant's foreign priority document removes *Kim et al.*, US 7,233,379 as prior art. This is persuasive, so the previous rejections in view of *Kim* '379 are withdrawn.

The applicant has cancelled claims 1-10, which makes moot the previous rejections in view of *Jun* '850 and *Kim* '376.

Claim 17 was previously rejected under 35 USC 112, 2<sup>nd</sup> paragraph. The applicant has amended the relevant part of claim 17 to read "such that a boundary of the gate line having the notch that overlaps the data line is greater than a width of the data line". This is understood by the examiner to mean, "considering the edge of the gate line which has the notch, its boundary which overlaps the data line is greater than a width of the data line". Assuming the examiner is correct that this is the applicant's intent, the language seems clear enough, so the previous rejection under 35 USC 112, 2<sup>nd</sup> paragraph is withdrawn. Unfortunately, it appears to the examiner that *Kim et al.*, Korean Patent Document No. P1999-0074559 meets this claim language, so the following rejections are appropriate.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 17 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Kim et al.*, Korean Patent Document No. P1999-0074559 (made of record by the applicant), in view of *Dohjo et al.*, U.S. Patent No. 6,078,366.

*Kim* discloses [see Figs. 2 and 3] an LCD comprising a substrate [1], gate line [2] gate electrode [21] projecting from a first side of the gate line, gate insulating layer [3], data line [6] perpendicular to the gate line, wherein the data line is adjacent to the gate electrode, a source electrode [61] projecting from the data line, a drain electrode [62] on the gate insulating layer at a fixed distance from the source electrode, and a pixel electrode [8], wherein a notch [for instance, the upside-down U-shape at the center of the data line] is formed in a second side of the gate line opposing the first side, and disposed between an edge of the gate electrode [either right or left edge] and an edge of the data line [the left edge of the data line], such that a boundary of the gate line having the notch that overlaps the data line is greater than a width of the data line [due to the boundary being wavy as it crosses the data line].

*Kim* does not explicitly disclose an active layer below the data line, source electrode, and drain electrode [4 is only below the source and drain electrodes]. *Dohjo* discloses [see title, Figs. 2 and 17, for instance] an active layer which is below the data

line as well as the source and drain electrodes. It would have been obvious to one of ordinary skill in the art at the time of the invention to have such an active layer in the device of *Kim*, motivated by *Dohjo*'s teaching that this provides higher production yield due to suppressing capacitance fluctuations and shorting, and reduces the number of masking steps needed [col. 18, lines 42ff., for instance]. Claim 17 is therefore unpatentable.

An edge of the notch [at an angle to the horizontal and vertical axes] and an edge of the gate electrode [vertical] are non-parallel with an edge of a portion of the gate line in which the notch is not formed [horizontal], so claim 26 is also unpatentable.

*Kim* does not explicitly disclose that the width and length of the notch is less than the width and length of the gate electrode [though this is how it is depicted in the figure, the figure is not known to be drawn to scale]. However, the width and length of the notch are sharply limited by the size of the data and gate lines, while making the gate electrode arbitrarily larger (to a reasonable extent) would have been obvious to one of ordinary skill in the art at the time of the invention in order to improve the properties of the TFT, so it would have been obvious to one of ordinary skill in the art at the time of the invention to meet the limitations of claims 24 and 25, which are therefore unpatentable.

***Allowable Subject Matter***

4. Claims 18 and 20-23 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. Claims 27 and 29-36 are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not disclose the device of claim 18, in particular that a boundary of the gate electrode that overlaps the drain electrode is greater than a width of the drain electrode, so claim 18 would be allowable if rewritten appropriately.

The prior art does not disclose the device of claim 20, in particular that a section of the notch is disposed directly opposite to the gate electrode, so claim 20 would be allowable if rewritten appropriately.

The prior art does not disclose the device of claim 21, in particular that an edge of the notch is aligned with an edge of the gate electrode, so claim 21 would be allowable if rewritten appropriately, as would claims 22 and 23 which depend from it.

The prior art does not disclose the device of claim 27, in particular the additional limitation (amended from the previous claim 28) that a boundary of the gate electrode that overlaps the drain electrode is greater than a width of the drain electrode. [In particular, *Kim '376* has a boundary of the gate electrode that overlaps the drain electrode being the same as, not greater than, the width of the drain electrode.] Claim 27 is therefore allowed, as are its dependent claims 29-36.

***Election/Restrictions***

7. Claims 11-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made without traverse in the reply filed on 23 June 2005.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Schechter whose telephone number is (571) 272-2302. The examiner can normally be reached on Monday - Friday, 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew Schechter/  
Primary Examiner, Art Unit 2871  
Technology Center 2800  
28 March 2008